



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Sc. DEGREE EXAMINATION – PLANT BIOLOGY AND PLANT BIOTECHNOLOGY

SIXTH SEMESTER – APRIL 2015

PB 6612 - PLANT BIOTECHNOLOGY

Date : 15/04/2015
Time : 09:00-12:00

Dept. No.

Max. : 100 Marks

PART-A

Answer the following, each within 50 words only:

(10x2=20marks)

1. Define Totipotency.
2. Write the contribution of Prof. Maheswari in tissue culture.
3. What is the significance of embryo culture?
4. Comment on somatic embryogenesis.
5. Write any one application of meristem culture.
6. What are linkers?
7. Define Genomic library.
8. What is Hybridization?
9. Cite the significance of RFLP.
10. What are artificial seeds?

PART-B

Answer the following, each within 500 words only:

(5x7=35marks)

Draw diagrams wherever necessary:

11. a. Give an account on application of plant tissue culture.
Or
b. Describe the procedure for single cell and suspension culture.
12. a. Describe the procedure for anther culture.
Or
b. Write notes on the methods of cryopreservation.
13. a. Enumerate the importance of *Arabidopsis thaliana* in plant molecular biology.
Or
b. Describe the structure of Ti plasmid.
14. a. List the salient features of an ideal cloning vector.
Or
b. Write short notes on southern blotting.
15. a. Write the techniques used for the crop improvement.
Or
b. Explain DNA finger printing.

PART-C

Answer any **THREE** of the following, each within 1200 words only:

(3x15=45marks)

Draw diagrams wherever necessary:

16. Give a detailed account on sterilization techniques used in plant tissue culture.
17. How will you isolate protoplast from the plant cell? Give the applications of the protoplast culture.
18. Explain the steps involved in transformation of plants using *Agrobacterium tumifaciens*.
19. Write an essay on polymerase chain reaction.
20. What are Transgenic plants? Explain how transgenic plants can be developed for insect resistance.

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